

CLAIMS

1. Water purification composition, comprising an aqueous phase which contains from 5 to 10,000 micrograms of selenium per liter.
2. Composition according to claim 1, comprising an aqueous phase which contains from 5 to 500 micrograms of selenium per liter.
3. Composition according to claim 1, wherein the aqueous phase is chosen from among water to which Selenium has been added or the water from the Ein Bokek springs of Israel.
4. Composition according to claim 1 or 3, subjected to reverse osmosis.
5. Composition according to claim 1 or 3, subjected to acidification by the addition of 0.1-10 wt% of acids.
6. Composition comprising an aqueous phase which contains from 5 to 10,000 micrograms of selenium per liter and one or more natural or mixtures of natural substances, chosen from the group consisting of substances having a cationic molecular charge and substances having an anionic molecular charge.
7. Composition according to claim 6, wherein the substances having a cationic molecular charge have an animal origin.
8. Composition according to claim 6, wherein the substances having an anionic molecular charge have a vegetable origin.

9. Composition according to claim 7, wherein the substances having a cationic molecular charge have a charge deriving from amino groups having molecular weight from 5,000 to 10,000,000 Daltons.

10. Composition according to claim 9, wherein the substances are chosen from the group consisting of chitin, oligosaccharides and polysaccharides.

11. Composition according to claim 9, comprising obtaining the substances from raw materials chosen from the group consisting of shellac, shells of crustaceans, crabs, shrimps, lobsters, marine zooplankton, coral, and jelly fish, by solution or extraction.

12. Composition according to claim 6, wherein the substances having an anionic molecular charge are chosen from the group consisting of gums, fibers and cellulose.

13. Water purification process, which comprises producing a composition according to one or of claims 1 to 12, mixing it to the water to be purified and removing any coagulated impurities by any suitable separation process.

14. Water purification process which comprises preparing at least one composition according to claim 6, adding said composition to the water to be purified, mixing under stirring, allowing coagulated material to form in said water containing said composition, and separating said coagulated material.

15. Water purification process which comprises producing a first composition comprising an aqueous phase which contains from 5 to 10,000 of selenium per liter, optionally subjected to reverse osmosis and optionally acidified, adding said composition to the water to be purified,

preparing a second composition according to claim 6, adding said second composition to said water to be purified, mixing under stirring, allowing coagulated material to form in said water containing said compositions, and separating said coagulated material.

16. Process according to claim 14 or 15, wherein the coagulated material is separated by mechanical means.

17. Process according to claim 14 or 15, wherein the coagulated material is separated by floating or injecting air and treating the material in batch in an incinerator.

18. Process according to claim 14 or 15, wherein the coagulated material is separated by introducing it into an apparatus for centrifugation or sedimentation, for continuous treatment

19. Process according to claim 14 or 15, further comprising separating part of the water contained in it and using the dry or semi-dry residue, after any appropriate treatment.

20. Water purification process, comprising determining a turbidity index and adding to the water to be purified a composition comprising one or more natural or mixtures of natural substances, chosen from the group consisting of substances having a cationic molecular charge and substances having an anionic molecular charge, in an amount determined as a function of said turbidity index.

21. Process according to claim 20, wherein the function is a linear function.
 22. Process for the separation of beneficial materials that are obtained from an aqueous solution, comprising determining a turbidity index and adding to said solution a composition comprising one or more natural or mixtures of natural substances, chosen from the group consisting of substances having a cationic molecular charge and substances having an anionic molecular charge, in an amount determined as a function of said turbidity index, thereby, allowing the aggregation of said beneficial materials.
 23. Process according to claim 22, wherein the beneficial materials are selected from the group of starch, sugar, algal materials for nutritional or medical uses, and pro-biotic bacteria settlement.
 24. Water purification composition, substantially as described and illustrated.
 25. Water purification process, substantially as described and illustrated.
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